

What is claimed is:

1. A method for detecting the position of a shutter disk within a physical vapor deposition chamber having a substrate support, comprising:
moving the shutter disk from a first position substantially concentric with the substrate support to a second position clear of the substrate support; and
sensing the edge of the shutter disk in the clear position.
2. The method of claim 1, wherein the step of sensing the edge of the shutter disk in the clear position further comprises:
viewing the shutter disk through a window formed in a housing coupled to the chamber.
3. The method of claim 1, wherein the step of sensing the edge of the shutter disk in the clear position further comprises:
interrupting a beam generated by an emitter and passing through a window formed in a housing coupled to the chamber.
4. The method of claim 1, wherein the step of sensing the edge of the shutter disk in the clear position further comprises:
sensing the edge of the shutter disk at a first radial distance from the shutter disk; and
sensing the edge of the shutter disk at a second radial distance from the shutter disk.
5. The method of claim 4, wherein the step of sensing the edge of the shutter disk at the first radial distance from the shutter disk occurs before the step of sensing the edge of the shutter disk at the second radial distance from the shutter disk.

6. The method of claim 4, wherein the step of sensing the edge of the shutter disk at the second radial distance occurs when the shutter disk is misaligned on the shutter blade.
7. The method of claim 1 further comprising:
 - moving the shutter disk to the first position;
 - transferring the shutter disk from a shutter blade to the substrate support;
 - moving the shutter blade at least partially into the housing; and
 - sensing the presence of the blade within the housing through a window disposed in the housing.
8. A method for detecting the position of a shutter disk within a physical vapor deposition chamber having a substrate support, comprising:
 - moving the shutter disk away from the substrate support; and
 - changing a state of a first sensor in response to a position of an edge the shutter disk.
9. The method of claim 8, wherein the step of changing the state of the first sensor further comprises:
 - interrupting a beam emitted by the first sensor.
10. The method of claim 8 further comprising:
 - changing a state of a second sensor with an edge the shutter disk.
11. The method of claim 10, wherein the step of changing the state of the second sensor further comprises:
 - interrupting a beam emitted by the second sensor.
12. The method of claim 10, wherein the step of changing the state of the second sensor occurs when the shutter disk is misaligned to one side of a shutter blade supporting the shutter disk.